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ON VITAL ENDOWMENTS OF NERVES.

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THE doctrine of the existence of certain specific vital endowments, by which the functions appertaining to the nerves and nervous centres are performed, has long been considered as established in physiology; and its influence may be traced in the vast preponderance of the nervous system, over other organic systems and tissues, in the minds of all writers on the subject. There is scarcely a vital change or process, which takes place within the body, scarcely a mode of activity of the mind, which has not at some time or other been referred to some particular nerve, part of a nerve, or nervous centre, as its inherent cause. Secretion, muscular contractility, circulation, respiration, and even nutrition, have all, at one time or another, been supposed to derive their power from this source. There are few diseases which do not owe their virulence and danger to the mode in which they affect certain properties of the brain, spinal marrow, or the organic nervous system. There are few remedies which do not exhibit a vital affinity for some one of the same properties. Animal magnetism is discredited because there is no nerve leading from the magnetizer to the magnetized. Embryotic influences are disbelieved, because a similar connection exists not between the mother and the foetus in utero. Sympathy cannot be conceived to take place between parts or organs, where there is no nervous medium of communication. Whatever is unexplained in physiology or pathology, is supposed to depend on some occult power of the nervous system. For as its open and admitted powers border on infinity, no limit can be assigned to the number of those which are hid. The spinal marrow has its reflex function; the medulla oblongata its respiratory and deglutitory function. The ganglia at the base of the brain are the seats of sensation, instinct, and emotion. The cerebellum has the power of co-ordinating muscular motions. The cerebrum has its automatic actions, which, according to the latest and most popular version of this physiology, comprises nearly all the functions of the soul, leaving out, in short, nothing but the will, which, owing to some peculiar obstinacy of its own, will not come into the category. All the forms of thought pass, by a mutation of words, through "ideation" into "cerebration." "Those processes," says Carpenter, "called into activity by sensorial changes

—varying from the simple act of perception to the highest operations of intellectual power—consisting also in the play of fancy and imagination, and including those active states known as passions, emotions, moral feelings, sentiments, &c., must be regarded as essentially automatic in their nature, and as the manifestations of the reflex activity of the cerebrum."

The belief in such a wonderful array of powers inherent in an organic system could not obtain, without leading to the most searching investigation into the anatomical structure and physiological action of the part thus endowed. Anatomists would naturally seek to know what were the peculiar configurations, and collocutions of parts, of the brain, that adapted it, by its reflex activity, to produce thought, emotion, moral feelings, &c.; while physiologists would look, if possible, at the play of the machinery in living operation, to divine the moving powers when perception takes place, or fancy is called into exercise, or search into the causes of the spontaneous combustion by which the steam is evolved, when dire hatred or revenge rules the hour. But, unfortunately, the success of such researches has not been commensurate with the efforts expended. The brain has been bisected, dissected and vivisected; it has been sliced, horizontally, perpendicularly, transversely and diagonally; but the radiant crystal which is destined to shine forth, when its true cleavage is struck, like the gem of Gray's elegy yet lies in a dark and unfathomable cave. Its tissue has been unravelled, and its fibres have been traced with diligent minuteness throughout their various ramifications and decussations; but the thread which guides through the labyrinth, where soul unites with body, cannot be laid hold of. The scalpel and the microscope have both done their utmost. Dogs, rabbits, Guinea pigs, horses and asses, have been tortured into martyrdom, by a modern scientific inquisition, but the responses wrung from these tortures have been exceedingly vague and unsatisfactory.

Every prominence on the surface of the brain, every groove and fissure, has received some high-sounding Greek or Latin name. The scholastic period of its physiology most certainly has been attained. We have learned disquisitions on the cortical and medullary structure, on the vesicular and tubular portion, on the gelatinous and tubular fibre, on the axis cylinder and primitive band. But no connection, chemical, artistical or mechanical—no adaptation between the structure, and the wonderful functions that are said to grow out of it—has ever been traced. To the unsophisticated eye, the brain, when opened into, appears mysteriously simple and homogeneous. It looks in vain for a reason why its cortical and tubular portions should have any more complexity of function than the cortical and tubular portion of the kidneys. The telescope that sees, is not there; the whispering gallery that hears, is not there; the cabinet so nicely framed as to remember, the loom on which the web of thought is woven, the cauldrons in which human passions effervesce, do not reveal themselves.

In the language of the popular physiologist above quoted, if we admit with him that the brain is the fount and origin of all intellectual activity, we must also admit that "sensation, thought, emotion and volition, are changes inappreciable to our senses by any means of observa-

tion which we at present possess"—language which, though sufficiently despairing for the day and generation, holds out the hope that in the progress of the mechanic arts, some ingenious instrument may be invented, which will bring these singular processes into relation with either sight, hearing, touch, taste or smell.

Notwithstanding, however, this apparent want of success in discovering any connection between the structure and vital actions of the brain, and these supposed vital properties, there seems to be a general acquiescence in the opinion, that great and important discoveries have been made, since this method of investigation was adopted. We hear, on all sides, of the great advances that have been made in nervous physiology. So well satisfied are some of the leading physiologists of Great Britain of the value and permanency of these additions to our knowledge, that they begin to discuss the meed of honor that should be awarded to those who have had a share in bringing them about. We have even the high authority of Sir Wm. Hamilton, that the results of Sir Charles Bell's investigations are beyond the risk of refutation. One can hardly repress a smile at the complacency with which Dr. Carpenter acknowledges the credit due to the continental physiologists for furnishing *details*, while he attributes to himself and his insular confreres, every material step in advance, of the *general doctrines* of the science. France, Germany and Italy have, it seems, produced the lumbermen and brickmakers, and through them the rough materials; while England claims the Carpenters, and other artificers, by whose handy work the building is "fitly framed and joined together." No son of New England would wantonly disinherit himself, by detracting from the just fame that belongs to the land of his ancestors. We claim an hereditary right, even the right of primogeniture, in all her honors, scientific and literary, as well as those won by flood and field, past, present, and to come. But in the present case, if we should barter our birthright for a mess of pottage, Esau would have the advantage of Jacob. Our portion of laurels won in the researches into the reflex and automatic powers of the brain and nervous system, is about on a par with our interest in the celebrated discoveries of Sir John Herschell in the natural history of the moon, which made so much stir in the papers a few years since.

To be serious, in the face of the authority of these eminent men, who hold by the ear, the one the philosophical, the other the physiological world, I believe that it can be established, that while facts and details have accumulated, they alone constitute all the progress that has been made; that not a step has been taken in advance, in the general doctrines of the science, since the time of Sir Charles Bell;* that even his supposed discovery was, instead of a step in advance, a step *aside*; that, by placing what was, in reality, an attribute of mind, in a nerve, as a *vis insitu*, and recognizing but a part of a truth as a whole, he has given a tangential impulse to the course of investigation, which has kept it off the track ever since. By endowing the anterior columns of the spinal marrow with a motor power, and the posterior columns with a sensitive

* The discovery of Marshall Hall, by far the most important contribution that has been made, is one of fact, not of doctrine. It is a fact that yet stands in need of explanation.

power, he sanctioned and gave the chief impetus to subsequent inquiries into the reflex and automatic powers of the brain, ganglia and spinal cord, and the vital endowments of the nerves generally. If the mind or spiritual principle, as a real potential essence, active in the body, is lost sight of in these inquiries, it has been owing, in a great measure, to the influence of his authority.

There are but two methods of considering the nature and office of the nervous system in the human body, which present any claim to consistency in themselves, or any analogy to the forms of knowledge. Either all mental affections must be supposed to inhere in, and to depend on, vital endowments of nerves; or the supposed vital endowments of nerves are another name for mental powers or activities, associated with the physical activities of nerves. According to the former of these views, it is by virtue of a specific vital endowment of the optic nerve, that when light is impressed on the retina we are affected with the sensation of color; by a similar endowment of the auditory, when the vibrations of the air reach the internal ear, we are affected with the sensations of sound; another of the olfactory, to which we owe the sensations of odor; a fourth endowment of the gustatory, to which we owe the sensations of taste; a fifth, imparted to the nerves distributed to the skin and the posterior part of the spinal marrow, gives the sensations of touch. The nerves that go to the muscles, and the anterior portion of the spinal marrow, have a motor endowment by which the muscles are contracted; while the central portion has its reflex endowment. The power of breathing and the power of swallowing are inherent properties of the medulla oblongata. And as all these sensations of sight, hearing, taste, &c., are as much affections of mind, as thoughts, emotions and passions, and since no connection between the structure or vital actions of the nerves and these sensations can be traced or even conceived; the mechanical relations in which indeed they differ, being such as are accommodated to the physical causes acting upon them from without; it is perfectly consistent and legitimate to transpose this reasoning to the brain and the mind in its higher faculties. The brain being a huge congeries of nerves of the same character as those of the surfaces, any number of vital endowments may be predicated of it; and as the brain is not directly operated on by external or mechanical causes, there is no need of a mechanical division into parts distinct to the senses, as in the former case, in order that the analogy may hold. Not merely, then, is sensation, thought, volition, judgment, memory, imagination, with the passions and propensities, referable to vital powers or endowments of parts of the brain, but all the phrenological faculties with their craniological organs, coupled with all the additions that the phreno-mesmerizers have made, are perfectly consistent with this philosophy.

A moment's reflection must satisfy any one that this doctrine is neither more nor less than materialism. If all the mental affections, from sensation up to thought (and there is no stopping point from the admission of one to the admission of the whole), are dependent on properties of nerves or of the brain, to suppose the existence of mind, soul, or spiritual principle, capable of sensation, feeling or thought, is superfluous. We

have no use for it in connection with the body, nor can we conceive of its enduring after death. When the nerves and brain crumble to dust, those vital endowments, dependent on their organization, disappear along with them. Yet materialistic as it is, this is the doctrine generally acquiesced in by the medical profession throughout this country and the world. The physiological works in which it is set forth, are those which are most strongly recommended by the medical professor to his class in every school, and by the medical journals to the profession at large. And were it not a fact sufficiently proved by the prevalence of errors and delusions among the learned of past times, that neither the length of time which a doctrine has been believed, nor the weight of authority in its favor, can give it any probability which originally and inherently it did not possess, it would be deemed the rashness of temerity to call it in question. As it is, the only justification of such an attempt, when one thus ventures to oppose the united voice of the schools, and the eminent in the profession, is a firm conviction of the erroneousness of the views he contorts, and an unwavering confidence in the truth of those he espouses. And it may serve somewhat to abate the force of prejudice to which it gives rise, and counterbalance the prestige of time and authority, when it is considered, that this doctrine having been in vogue for so long a season, and unremitting efforts to unfold the truths wrapped up in it having been followed by such an utter barrenness of results as experimental physiology teaches us has followed, it is natural to suspect an error in the fundamental principle.

That this doctrine was founded on superficial grounds, and that it maintains itself rather by general consent, than by an enlightened conviction of the truths it contains, it is believed may be made apparent by a consideration of the following propositions:—

- 1st. It is opposed to the general analogy of nature.
- 2d. It is opposed to the analogy of the other organs and organic systems in the body.
- 3d. It is contradicted by the structure of the nervous system, by the mechanical relations of its several parts to each other and to other organs, and by the nature of the causes operating physiologically to excite its functional activity, or pathologically to disturb it.
- 4th. It violates the law of proportion between the size of the nervous centres, and the complexity of their functions, by assigning very complicated functions in higher animals, to parts, in which the same size is preserved as in the corresponding parts of lower animals, in which the analogous function is extremely simple.
- 5th. In order to preserve its consistency, it denies to the invertebrated class of animals mental qualities which they most certainly possess. Thus Carpenter, while he allows intelligence to beasts, birds and fishes, denies it to ants, bees, and spiders, because they have no brain.
- 6th. The persistence of a function after the destruction of the organ on whose vital endowment that function depended, as the continuance of the power of voluntary motion after the destruction of the whole anterior part of the spinal marrow, a fact admitted, and of a positive character, is a decided refutation of the whole theory.

7th. The mechanism of voluntary motion, which it sets forth, is absurd.

8th. The distribution it makes of the sensitive properties throughout the nerves, is unphilosophical.

9th. It fails to account for *all* the phenomena which take place in the human body, and which are usually referred to the nervous system; such events as shock, sudden loss of vitality, and many of the phenomena of sympathy remaining unaccounted for, by it.

10th. The inconsistencies and contradictions of those who undertake to investigate and fix these vital endowments of nerves and nervous centres by means of physiological experiments, and pathological observations, are such as could not take place, did they possess the true key to the explanation of the facts which they witness.

11th. A comparison of the phenomena of association with those of instinct, will show that the apparent fixedness of the sensibilities of the specific and other nerves, can be explained as well by regarding them as mental faculties instinctively associated with physical excitements of nerves, as by supposing them due to inherent properties of the nerves themselves; and if so, the supposition of the existence of such properties is a gratuitous assumption.

12th. And with regard to the well-known fact that when the cut end of a motor nerve (so called) is irritated, the muscle with which it is connected contracts, by far the strongest argument in favor of the doctrine of vital endowments, if we adopt a view of the nature of the union of the mind with the body, which has been held by many of the most distinguished ancient as well as modern philosophers, viz., "that the mind is all in the whole body, and all in every of its parts," instead of locating it in "the brain or any other part; we can then conceive of a mental act intervening between the excitement of the cut end of the nerve, and the contraction of the connected muscle, on which, and not on any property of the nerve, the effect is due.

13th. Finally, of those facts which have loosely been held to prove that the brain is the organ of the mind—such as the correspondence between the size of the brain and the intellect of the species, or of the individual; the sense of fatigue in the head that follows long-continued exercise of the mind; delirium, attending an excited condition of the nervous system; impairment of the memory in disease of the brain; loss of the powers of sensation, volition and consciousness, in concussion and compression of the brain; they only serve to show a connection, perhaps fortuitous, between the functional activity of the brain and the exercise of the mind. Sensation and volitional guidance of the contractions of the muscles are both intellectual operations; and as the activity of the brain is necessary to those, so it becomes associated with, and is favorable to, the activity of all the intellectual faculties.

B. H.

May 6, 1854.

EPIDEMIC TRAUMATIC TETANUS.

BY I. E. THOMPSON, M.D., MISSOURI.

[Communicated for the Boston Medical and Surgical Journal.]

DURING the months of March, April, May and June, 1853, this disease raged to a fearful extent in this portion of Missouri. It walked forth, garbed with terror, to the destruction of nearly all that became its victims. The first case that came under my notice was on the 10th of March. I was summoned in great haste to the residence of Col. Charles Sumpter, a pioneer of Missouri, and found his youngest son, a lad of 15, prostrated with well-marked symptoms of traumatic tetanus. The masseter and other masticatory muscles were greatly contracted—jaws firmly closed—growing worse. In fifteen minutes after I arrived, severe spasms came on, returning every five minutes, combined with opisthotonus. I ordered sulphate of morphine one third of a grain, and quinine two thirds of a grain, every fifteen minutes. 10 o'clock, A.M.—Have given seven grains of morphine and quinine, but patient growing worse; pulse 112; skin warm. I then gave an infusion of tobacco, but to no purpose; deglutition difficult. Ordered a teaspoonful of spirits of turpentine every fifteen minutes, and caustic potash along the whole track of the spine. 12 o'clock, A.M.—Pulse 114, thready; spasms worse. I found, upon examination, that the spasms had extended to the respiratory muscles, and to the heart; the treatment which before had been successful in my hands, now failed; friends greatly excited, and parents crying, "Doctor, can't you save my dear Johnny!" Circumstances threw me upon my "wit's end," thinking what to do; and at 15 minutes past 12, death relieved the sufferer, just *three hours* from the attack! I mounted my horse and sighed—retreat! retreat!

Upon learning the history prior to the attack, I found the lad had been ploughing the day previous, hearty and well as usual; did not complain through the night, but slept well. Ate a hearty breakfast, and went to ploughing again; shortly after arriving at his place of labor, the father, being near by, observed him sitting down, and calling to him, wished to know if he was sick; but receiving no reply, hastened to him, and found him speechless. He immediately conveyed him home, and sent for me, one mile off. I examined the patient well, and could find no marks of injury—not even a scratch. I contended he *had* received some injury, but the patient and family vowed not.

On the 20th of March I was called again to the same family. The next elder son was attacked in a similar manner. I pursued the same course of treatment as in the former case, till it became very evident that the patient *must* die, unless the treatment was changed. Fortunately I had with me a vial of camphorated chloroform, of which I immediately gave twenty drops internally, and saturated portions of cotton with it and placed upon the patient's upper lip. They were repeated during the spasms. In ten minutes after the inhalations, the pulse sank from 114 to 70; all muscular excitement ceased, and in twenty minutes the patient experienced refreshing sleep. The spasms did not return, and the patient gradually recovered. There were no marks of injury in this case visible.

During these four months I attended some forty cases, twenty-six of them fatal ; and but two cases out of that number showed marks of injury. One of these was a wound on the left foot, near the great-toe joint, of a little girl, aged 5 years, caused by letting a fork fall from her hand while washing dishes ; the other, caused by running a thorn into the sole of the right foot of a little boy, aged 10 years. The latter proved fatal in six hours after the injury.

In the patients that came under my care, the tetanic symptoms were usually acute, and ensued in the following order, viz., trismus, cramp in the muscles of the face, back and neck, with opisthotonus ; and those proving fatal, in the respiratory muscles and the heart. Not a single death occurred from loss of power in the brain, or spinal cord, or from exhaustion. It is passing strange that the treatment by opiates, &c., invariably aggravated the general symptoms, instead of producing convalescence. In every case, all other antidotes except chloroform failed. One of my neighboring practitioners stated that he used chloroform in combination with tinct. opii, and afterwards gave them separately ; the former producing relaxation, while the latter rather aggravated the paroxysms, proving satisfactorily that chloroform was the only reliable remedy. Old practitioners of good standing have told me that the treatment which failed in the present cases was never before known to fail in tetanus, in all its types, in the same section of Missouri ; and that it arose from wounds or local injuries. It is my firm conviction that if chloroform had been given on the first appearance of tetanus, most of the above cases might have been saved, young children and weak constitutions excepted.

The tetanus which has been epidemic here the past season, exhibited the following peculiarities :—First, generally arising from *no* wounds or local cause ; second, being confined to the muscles of the upper extremities, no lower down than the heart ; third, after the third day, prognosis being favorable, *no* deaths after that time ; fourth, opisthotonus in all cases, and general fatality ; fifth, being confined to the young alone, the oldest being 18 years, and from that to 10 months ; sixth, being confined to a locality of about five miles square. The situation of this five miles square is low, black-oak, swampy land, which the farmers have been compelled to ditch, in order to make it tillable. There was not a single case on dry elevated land. There have been no cases since the last of June.

Osage Co., Mo., April 16, 1854.

ALCOHOL IN MEDICINE.

[Communicated for the Boston Medical and Surgical Journal.]

MESSRS. EDITORS.—In your Journal of March 29th, in answer to a series of questions proposed by himself, Dr. Gilman has endeavored to prove that alcoholic liquors are not indispensably necessary in the practice of medicine, and his zeal against this article seems to have led him to discard the use of stimulants altogether. As a specimen of his rea-

soning upon the subject, take the following:—"The apparent increase of strength is nothing more than the latent nervous energies, aroused for the sole purpose of driving out the enemy from the body. When this task is over, there is still greater exhaustion." Now by this *easy* mode of reasoning, it can soon be shown that all medicines are injurious; for if it holds good with regard to stimulants, it may be just as fairly applied to sedatives—"the first effect of a sedative being opposed to action, the second re-active"—and thus we get rid of another large and important class of remedies. If we adopt the classification, then, of the Italians, and make but two classes of medicines, stimulants and sedatives, our theory is complete, and we may close our offices.

I do not propose to answer the questions propounded; but as Dr. Gilman desires light, I offer the following extract; and perhaps it will shine all the brighter, as it comes from the same author he has quoted so largely. That the quotations in the article under consideration apply to the abuse of alcohol in health, is quite clear; but how it is that any one familiar with the views of Dr. Carpenter should have so entirely misapplied his arguments, perhaps Dr. Gilman can best explain. In Dr. Carpenter's "Principles of Human Physiology," page 624, after alluding to the experiments of M. Chossat upon starvation, he says:—"It is especially, perhaps, in those forms of fever, in which no decided lesion can be discovered after death, that this view has the strongest claim to reception; and the beneficial result of the administration of alcohol in such conditions, and the large amount in which it may be given with impunity, may probably be accounted for on this principle. That it acts as a specific stimulus to the nervous system, cannot be doubted from its effects on the healthy body; but that it serves as a *fuel* to keep up the calorifying process, appears equally certain. Its great efficacy in such cases seems to depend upon the readiness with which it will be taken into the circulation by a simple act of endosmotic imbibition, when the special absorbtive process, dependent upon the peculiar powers of the cells of the villi, is in abeyance. There is no other combustible fluid, whose miscibility and whose density, relatively to that of the blood, will permit of its rapid absorption by the simple physical process adverted to."

But another objection to alcohol, in Dr. Gilman's opinion, is that "it interferes with the nutritive operations," by coagulating soluble albumen. Dr. Carpenter does not reject it as a *medicine* on this account; nor, perhaps, will Dr. Gilman throw away the mineral and vegetable acids, which also have the power of coagulating albumen.

Alcoholic stimulants are generally resorted to, to give temporary relief in cases of emergency—the dose repeated sufficiently often to prevent "exhaustion," and continued until the urgent symptoms have disappeared. And so with sedatives—the antipodes of stimulants as therapeutic agents—the same caution is to be observed in their administration, or we may hasten the calamity we are endeavoring to avoid. As illustrative of this, take cold water, which is much used as a local sedative to prevent inflammation. Its first effect is sedative, the second re-active. Now

in order to be prophylactic, its application must be continuous, otherwise we invite action instead of repelling it.

Dr. Gilman thinks that if stimulants are necessary, preference should be given to ammonia, oil of peppermint and spearmint, ginger, Cayenne pepper, serpentaria, &c., for he says that some of these act simply upon the *prima* *viae* as stimulants, and by sympathy upon the vital organs. In this, perhaps, he is entirely mistaken. From late investigations it appears quite probable that all these medicines enter the circulation. But what can take the place of alcohol in the treatment of persons bitten by poisonous snakes? Will the doctor answer?

The doctor says:—"When the mass of the people, who have no medical education, shall get their eyes open and look into this subject for themselves, some of our learned craft will be ashamed of their own stupidity."

Now this is unkind. The doctor should be more charitable towards his medical brethren, and recollect that they are not all as profound philosophers as himself.

B.

Philadelphia, April 29, 1854.

CONSULTATIONS.

[Communicated for the Boston Medical and Surgical Journal.]

CONSULTATIONS in difficult and protracted cases are many times of infinite advantage to both physician and patient, when conducted in a frank, honest and courteous manner. The young physician often requires an occasional suggestion from one of more experience, provided it can come from the heart dictated by none other than a just desire to assist the young brother in performing the duties and responsibilities of his profession.

If he has a complicated case under treatment, and is *quite certain* even that his prescriptions are well selected—that his anticipations are soon to be realized in the recovery of his patient—a few words of encouragement seem to operate favorably upon all concerned. Like the mariner that has been tossed by contrary winds, although he may have taken the sun and worked his log correctly, yet when he speaks a ship just from her departure, with fair winds and smooth sea, giving him the same latitude and longitude that he has by care and diligence kept for himself, it gives him new courage—assures him, notwithstanding the winds, the storms, and the currents, that he is correct—the approaching doubts are dismissed, and he is satisfied that his skill in navigation is sufficient for his purpose; so the physician, when his doubts can be thus dissipated, feels himself relieved of an uncertain load.

Consultations are not generally conducted upon principles of honesty—the physician does not find in his professional brother that candor which the mariner finds in *his* brother. Jealousy, rivalry, or some other accursed feeling, takes possession of the attending or consulting physician, and the desired object is not accomplished.

Whenever counsel is called to *satisfy the patient or friends*, the at-

tending physician frequently feels as if his skill is called in question by those who have no right to judge him. He feels as though asked to take advice, when advice is not required—and that, too, very frequently from one whom he knows to be his inferior in many or all respects. Under such circumstances it would not be very surprising if the consultation resulted in little or no good. Such is human nature (and physicians are human—public opinion to the contrary notwithstanding)—if a physician's dignity and pride are thus compromised, and his reputation sacrificed to gratify some over-earnest friend of Dr. Somebodyelse, the result may, *à priori*, be anticipated.

Again, the consulting physician (unless he is a gentleman) often arrogates to himself that which does not belong to him. He supposes, or presumes to suppose, it is his *superior* skill (though he be an ignoramus) that has induced some one to call him in to *dictate* to his *inferior* of course what to do in the case. It is not supposed the attending physician knows how to manage the case, or he would not have been called in to *tell* him what to do. He therefore *feels* himself to be the *superior*; and acting upon this assumption, does what other brethren would never stoop to do.

After examining the patient and treatment, however well the latter may be adapted to the former—even when there is no prospect of changing the plan of treatment for the better—he seems to think his services will not be appreciated unless some change is made in the medicine by which his superior scientific knowledge may be apparent; and to do this, no tricks are too low for his resort. The real object of consultation—that of inspiring the patient with confidence in his physician—is sacrificed upon the altar of his selfishness, by proposing a change for the sake of change, without an alteration—thus destroying what it was his duty to confirm.

I have in my recollection a case to the point (when I was younger than I am now, but old enough not to be trampled upon in this manner with impunity), where the consulting physician proposed a *change* in the treatment in order to *satisfy the friends*, he said, that *something* was accomplished by the consultation—*something* for which they paid their money. It was this. A child came under my professional care, which, among other medicines, I thought required nit. pot. I prepared a little, nicely pulverized in separate papers, to be given at stated intervals in a little gum water. The parents were considerably alarmed for the safety of their little one, and I, a "young doctor" (that terror to all communities) was asked to call in Dr. G., the old family physician. The old doctor was sent for, and I the *young doctor*, it was supposed, would play second fiddle. After a very pompous examination of the patient, we (or rather *he* went and I followed) retired to another room to "consult" (might I not say *insult*). I explained my method of treatment, and submitted to him the management for approval or rejection. He said he had nothing to say against the treatment; it was all well—very good—on the right plan, &c. "But," said he, "you know when we are called in this way it is necessary that something should be done to let the friends know we have been here—that is, we must make some

little alteration. Just take the nit. pot. and dissolve a sufficient quantity in a tumblerful of cold water, so that a teaspoonful shall contain the present dose, and give it, with the other medicines the same." One need not ask what I thought of the doctor's honesty as a brother—nor need any one suppose I was *young* enough to allow the change to be made.

All physicians are not as dishonest as Dr. G.; but too many are tainted with his notions—or have such impudence as to trespass upon all known laws of propriety. Yet there are many good physicians who intend to deal honorably, and still it is hard work for them to allow the opportunity to pass unembraced, which will exalt them at their worthy neighbor's expense. They lack the manliness to say what they know to be facts when their own glory is not to be magnified. Such feelings are not confined to the rich or the poor—the learned or ignorant—no matter if

"To the manor born,"

or "A dull and muddy-mettled rascal." The man that is without a soul will "steal your good name."

A. P. KING.

Apponaug, R. I., May, 1854.

FOREIGN CORRESPONDENCE—LETTER FROM PARIS.

[Continued from page 283.]

IV. Does the respiration aid in calorification?—Causes of animal heat.—Influence exercised in this respect by the nervous system.—In an animal that respites normally, there is only the introduction of oxygen and the exhalation of carbonic acid; we see, also, that the heat is maintained, that all of the secretions are in operation, and that the muscular irritability and nervous excitability are active in their functions. It is necessary to seek to what point these physiological conditions are allied to the physical phenomena of respiration.

First, *calorification*. At all times it has been established, that there is a connection between the respiration and the calorification. It is observed not only in warm-blooded animals, but in cold-blooded. Birds, above all, which can have a temperature above the medium in which they live, offer a warmth more or less great according as the respiration is more or less active. Also the latter, or cold-blooded animals, harmonize in the same point of view, as their respiration is more or less active—as they are found in a warmer medium. We know that Chaussat has studied these variations of temperature, and has noted their various periods. After having established these phenomena, we ought to search how they take place. Some have thought that heat is produced in the lungs, and that it is allied to the phenomena of the absorption of oxygen. They believed that the blood which returns from the lungs to the heart was warmest. If, in effect, one exposes the carotid and jugular, and introduces a thermometer, there will be found more heat in the artery. Whilst, for example, in the carotid of mammals, some have established $38\frac{1}{2}$ ° centig., sometimes 39; and in the jugular only 36 or

37 have been observed. If you experiment far from the heart, in the anterior and posterior members of the animal, the temperature is still less elevated ; the blood offers no more than 36° in the artery and 35 in the vein. The *rapport* is always the same ; the arterial blood is the warmest.

It appeared, then, probable that the warmth was produced in the lungs. This theory accorded not with that of the ancients. Hippocrates, Aristotle, &c., thought that the air was destined to cool the blood. If a dog breathes after running, they said it was to cool the blood. But, to act with precision, it was necessary to establish the differences of temperature of the blood in the heart itself, near the lungs, at the moment when the blood enters the organ, and also when it leaves it. For a long time many have attempted some experiments of this nature. *A priori*, they were not believed difficult ; but they are very much so in reality, and there are a number of causes of error. Hunter, Saissy, &c., have said that the blood was warmer in the left ventricle than in the right. According to the last of these authors, it would be already warmer in the left auricle. These differences are more feeble in the ventricles than at the extremities of the vessels ; they consist, most generally, only of some degrees of fractions—sometimes one tenth, sometimes even one hundredth.

MM. Magendie and Bernard have found some *inverse results*. They have established, first, that the temperature of the heat oscillates between 39 and 40 degrees ; afterwards that the blood of the left ventricle is not so warm as that of the right ventricle. These results can vary, following the condition in which they take place. They ought not to be the same when produced upon the living animal, as upon the animal that has just expired. When an animal is killed and the thorax is immediately laid open, it can be objected that the heart is found in contact with the exterior air, and that this having a temperature lower than the blood, cools more the right ventricle than the left, by reason of the difference in their walls. To demonstrate that this cause of error can be real, M. George Liebig, after having put a thermometer into the right ventricle by the superior vena cava, and another into the left ventricle by the aorta, plunged the heart into water at 40 degrees ; he saw then that the thermometers were maintained at the same height. Withdrawing afterwards the heart to place it into water at 16 degrees, the thermometers fell unequally, and, after twenty minutes, the temperature the most elevated was found in the left where the ventricle is the thickest.

In attempting to operate upon the living, we encounter the greatest difficulties. If we wish to introduce instruments into the cavities of the heart, they may be broken by the movements of the animal. The respiration is troubled by this operation. A very good way is to produce immediate death by the section of the medulla oblongata, and to push instantly the thermometers into the two ventricles. In their researches, MM. Magendie and Bernard have arrived at the conclusion that *the heat of the blood is more manifest in the right ventricle*. They have associated with them in their numerous experiments, a physician of some experience, M. Walferdin, who has rendered to the thermometer a great

service, and who has employed, for his observations, his thermometers à déversment, upon which one can read directly any variation, however feeble. During the lecture season, M. Bernard and M. Walserdin still continued their trials. Upon a dog during digestion, they found one tenth of a degree in favor of the blood in the right ventricle. In one of their experiments, they put first their thermometers into the right ventricle, then into the left. One might object, and say that the heat, greater in the first, was in consequence of the interval between the two examinations; but, in commencing by the left ventricle, they could still establish an excess of temperature in the right ventricle. This excess in the *temperature of the blood of the right ventricle of the heart holds some connection with the liver and the kidneys.* M. Bernard has established that this first organ, in virtue of the active circulation going on there, is a powerful source of calorification. It results that in the inferior vena cava, the receptacle of the blood from the veins of the liver and the kidneys, the venous blood is at its maximum of temperature, and that this temperature exceeds that of the blood of the aorta. If the liver acts for the digestion, the blood passes out of it warmer. This organ, as also the kidneys, is in a favorable condition to preserve its heat, being situated deeply and surrounded by the fatty omentum, a tissue which is not a very good conductor. It is necessary to remark that hibernating animals have epiploons supplementary, which seem destined to prevent the loss of the heat of the liver and the kidneys.

The *arterial blood has a uniform temperature.* As it leaves the lungs, and is thrown by the left ventricle into all of the organs so rapidly, it has scarcely time to be reduced in temperature. It is not the same with the venous blood. This blood cools at the surface near the skin and in the members, where it offers a degree less than the corresponding arterial blood. However, the skin, by its functions, prevents the cooling from being very considerable, because varnishing this organ, as we have seen, cools the blood to such a point, that the animal can perish as by cold.

En résumé, in the limbs and in the head, the venous blood is not so warm as the arterial blood. In the trunk and in the heart it becomes warmer, which proves that it has or ought to acquire this in its course. There are some organs which give to the blood a temperature more elevated, especially the liver; for it can be established that the blood of the vena porta is notably less warm than that of the sub-hepatic. The experiments of M. George Liebig are in accordance, in this respect, with those of M. Bernard.

Animal heat is, then, the result of the *metamorphosis* that the blood undergoes in the organs. All concur more or less in producing this heat. The skin is not without influence upon this result; it is the same with the glands.

The friction of the circulation is also a cause of warmth. In a word, whenever any changes take place, then heat is produced. The blood is re-heated equally in traversing the lungs, if the contact of air does not interfere. Because oxygen is absorbed in a less quantity during digestion, it cannot be its introduction that produces warmth, which,

during this time, is a little elevated. This temperature would more likely be connected with the quantity of carbonic acid expelled. Lavoisier believed that it was in the lungs that the combination of oxygen and carbon took place, and that then escaped the heat which was extended to all parts of the body. We know now, however, that this combination takes place in the blood and in all of the organs, and that heat is produced everywhere. This theory prevailing, involves naturally the fall of the other. It is necessary, moreover, to know that there are some connections between the intensity of the respiration and the production of warmth. But to understand these, the physical phenomena is not the only thing which shculd interest us ; we ought to take into account the *nervous system*, which acts without cessation.

[To be continued.]

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, MAY 17, 1854.

Meeting of the Massachusetts Medical Society at Fitchburg.—Arrangements have been made with the Fitchburg Railroad Company, whereby members of the Massachusetts Medical Society can pass over the road, to and from the meeting, at half the usual rates (or \$1.50), provided a certain number of tickets are engaged in season. If those members, therefore, who contemplate attending the annual meeting, wish to avail themselves of this reduced fare, they can do so, on application to this office, or to Dr. George S. Jones, the junior editor, 81 Charles street. It is very desirable to have them do so at once, as it will require sixty tickets at least, to be sold, in order to obtain the reduction from the usual fare.

The Consumption of Quinine in the United States.—Some interesting facts, relative to the immense consumption of drugs in this country, have lately been developed by the Secretary of the Treasury at Washington, while the subject of revising the tariff was under consideration. It appears from his schedule, that 300,000 *ounces* of *quinine* are annually consumed in the United States, meaning, we presume, imported, as there are two very large manufacturing establishments in this country, which prepare it on an extensive scale, and not probably included in the Secretary's computation. Heretofore this drug was admitted free; then excluded or subjected to a duty of twenty per ct.; now, in the proposed revision, it will pay twenty-five per ct. A large revenue will be derived from this one article, if the proposed increase of tariff is adopted—as it is worth, at the present time, from \$3 to \$4 the ounce. We remember, some twenty years since, purchasing quinine for 75 cents the ounce, and we can see no good reason for this very great increase in the price of it. It is true its consumption is greater now than it was then; but it is also true, that improvements have been made in manufacturing it, that ought to balance the rise in the price of bark from which it is prepared. If we remember rightly, the red bark was then used, it being considered to yield more of the alkaloid than any other kind, and that quality of bark then sold for \$2 per lb. Now the yel-

low kind is used, and commands from \$1.50 to \$2.50 per lb. At the time we speak of, this kind could be purchased in any quantity for 12 to 18 cts. per lb. This extraordinary advance in price does not appear to proceed from the scarcity of the crude material, but looks a little like a monopolizing and speculative operation. We should like to have this valuable drug again admitted free, that the poor, as well as others more highly favored, may, when necessary, enjoy its great benefits.

Extraordinary Fraud in Life Insurance.—In a foreign paper we find related a very extraordinary case of fraud, perpetrated upon two life insurance offices. In November, 1848, a tailor, by the name of F. Thomascheck, of Berlin, had an insurance of 9000 thalers effected upon his life in a London office, and 1000 more in another at Copenhagen. Soon after, he was taken very ill, was reported to have died, and supposed to have been buried. Notice of the death, with the proper vouchers, was sent to the aforementioned offices, and the 10,000 thalers promptly paid the brother of the deceased. The police having obtained certain information which led them to suppose that all was not right, arrested the parties implicated, and caused the grave of the supposed deceased to be opened. The coffin was found in a good state of preservation, and when opened, was found to contain nothing but stones, straw and an old board. This exhumation took place in September last, after a lapse of five years. Among those who were arrested, was a physician who attested to the sickness and final death of the tailor; and he, with the "dead alive," will have to stand at the bar for trial, which it is anticipated will be novel, and in the highest degree interesting.

New Lying-in Hospital.—A new building for a lying-in Hospital, four stories high, is now being erected between Shawmut Avenue and the Tremont road, in this city. It is to be built of brick and free-stone, in a plain but substantial manner, with all the modern improvements and conveniences for such an institution. It will be ready for occupancy by the coming fall.

A New Hospital in New York.—The corner stone of a new building, to be called "St. Luke's Hospital," was laid on Fifth Avenue, between 54th and 55th Streets, New York, on Saturday last. The following description of the building was given by Dr. Muhlenberg on the occasion:—

"The whole front of the building looking toward the South will be 280 feet, leaving an open ground for trees, shrubbery, walks, &c., of 100 feet by 300; depth of chapel, 88 feet; depth of wings, 66 feet. The material will be of brick. There will be four principal wards, besides other lesser ones, affording room for two hundred beds, with a space for each of seven feet by nine, exclusive of the alley. The wards will be fourteen feet high, with windows on both sides opening immediately to the lawn and air. The North side, protected by a glazed corridor, serving as a promenade for the patients, and ventilation, was the chief matter of attention on the part of the building committee."

The cost, including furniture, is estimated at \$150,000.

Meeting of the American Medical Association.—The proceedings at the seventh annual meeting of the Association, at St. Louis, have been publish-

ed in the papers of that city. They appear to have been marked by harmony of feeling among the members, a large number of whom were present, representing nearly every State in the Union. In the absence of Dr. Knight, of Connecticut, President of the Association, Dr. Usher Parsons, of Providence, R. I., senior Vice President, took the Chair. A hearty welcome was extended to the Delegates, by Dr. Washington, Chairman of the Committee of Arrangements. The Convention was organized by calling the roll of the members, and an address to the Association was then delivered by Dr. Parsons. We have only space, this week, to copy from it the following detached paragraphs.

"In order to promote the honor, dignity and usefulness of our profession, objects for which the Association was instituted, its members must be gathered from all parts of our country, and united into one harmonious fraternity, and must adopt such measures as will promote and perpetuate among ourselves an *esprit du corps*, a conformity of sentiment and feeling, and a combination and co-operation in action. This has already been accomplished in a good degree by holding our annual meetings in distant and remote cities of the Union. They must continue to be carried to new and ever varying spheres of action, until their beneficial influence is made available to the whole profession. As the great metallurgist in separating a heterogeneous mass of particles passes over it a magnetic bar to attract the pure iron and steel with a force proportioned to its proximity, so must the meetings of this Association, in order to gather into one fold suitable materials of growth and strength, be carried from place to place over the great mass of our whole population, attracting from the dross and impurities all that is of value and worthy of reception and incorporation into a homogeneous and efficient brotherhood. These considerations influenced me in voting to accept the invitation to hold the present meeting in Missouri, notwithstanding the toil and fatigue of the journey, and its remoteness from the residence of a large portion of the delegates. It is here more than elsewhere, that the meetings of this Association are likely to prove beneficial by a rapid enlargement of our numbers."

"And in no department of human affairs is progress here more sure than in medical knowledge. Our Atlantic States have inherited a reverence for European opinions, which, although commendable in our early medical history, is at the present day less favorable to American progress and discovery in medicine. We need to interrogate nature and experience more, and European opinions less. We need mental as well as political independence, a freer swing of thought and purpose that characterizes our brethren of the West, and which this Association is adapted to call into action."

Among the votes which passed, was one that brief sketches be prepared of those members of the Association who lost their lives last year by the Norwalk railroad disaster, to be published, we presume, in the Transactions; and one that future Committees of Arrangements be requested not to prepare costly entertainments for the Association. The following officers were chosen for the ensuing year.

President—Charles A. Pope, of Missouri.

Vice Presidents—E. D. Fenner, of Louisiana; N. S. Davis, of Illinois; William T. Wragg, of South Carolina; and John Green, of Massachusetts.

Secretaries—Edwin S. Lemoine, of Missouri; Francis West, of Pennsylvania.

Treasurer—D. F. Condie.

On taking the Chair, Dr. Pope made a few brief and eloquent remarks.

It was voted that a fee of \$3 be required of each member annually, to defray the expenses of publication; and that on neglecting to pay the same after notification, such member's name should be stricken from the list. The reports of Special Committees were received on Wednesday, as far as they were ready to be presented. It was announced that Prof. Daniel Brainard, of Chicago, Ill., was entitled to the prize offered for the best essay on "treating and uniting fractures." The resolutions offered last year by Dr. Stephen W. Williams, providing for the appointment of a Standing Committee to prepare biographical sketches of eminent members of the Association, were taken up and passed. A committee on hydrophobia, with Dr. Blatchford of Troy, N. Y., as chairman, was appointed.

Drs. Dixon, Griscom and Fenner were appointed a committee to report on the best means for preventing the introduction of disease into our cities.

The following are some of the standing committees appointed.

Dr. Worthington Hooker, of New Haven, Conn.—On Epidemics of New England and New York.

Dr. John L. Atlee, of Penn.—On Epidemics of New Jersey, Pennsylvania, Delaware and Maryland.

Dr. D. F. Condie, of Philadelphia—On the Causes of Tuberculous Disease.

Dr. Joseph Leidy, of Philadelphia—On Diseases of Parasitic Origin.

Dr. Horace Green, of New York—On the Use and Effects of Applications of Nitrate of Silver on the Throat, either in Local or General Disease.

Dr. P. Claiborne Gooch, of Richmond, Va.—On the Administration of Anesthetic Agency during Parturition.

Dr. Charles Hooker, of New Haven, Conn.—On the Diet of the Sick.

Dr. Sandford B. Hunt, of Buffalo, N. Y.—On the Hygrometrical State of the Atmosphere in various localities, and its influence on health.

Dr. Frank H. Hamilton, of Buffalo, N. Y.—On the Frequency of Deformities in Fractures.

Dr. S. B. Chase, of Portland, Me.—Typhoid Fever in Maine.

Committee on Prize Essays.—A. La Roche, M.D.; Isaac Hays, M.D.; Alfred Stillé, M.D.; J. B. Biddle, M.D.; George W. Norris, M.D.; Joseph Carson, M.D.; Joseph Leidy, M.D.—all of Pennsylvania.

Committee on Publication.—Pliny Earle, M.D., of New York; D. Francis Condie, M.D., of Pennsylvania; E. S. Lemoine, M.D., of Missouri; Francis West, M.D., of Pennsylvania; Alden March, M.D., E. H. Davis, M.D., C. R. Gilman, M.D.—of New York.

Philadelphia was appointed the next place of meeting.

Singular Accident.—The "New Orleans Medical News and Hospital Gazette" relates the case of a woman who was admitted to the Charity Hospital about the first of May, who had a few days previous been gored by a cow. The horn entered the mouth, passed through the hard palate, and made its exit immediately below the eye, tearing out all the intermediate hard and soft parts. The antrum was opened, a large portion of the superior maxillary bone was destroyed, together with the greater part of the malar bone and base of the orbit. The left side of the face was completely lacerated, presenting a terrible aspect.

Steps to the Medical Platform.—This is the title of a most excellent address delivered by Dr. J. A. Allen, Professor of Physiology in the Michigan

University, before the Michigan Medical Association, and is published at the request of the Society.

City Physician.—The City Council of Boston, on Thursday evening last, made choice of Dr. H. G. Clark, as City Physician; and Drs. J. C. Warren, Jacob Bigelow, Z. B. Adams, George Hayward and James Ayer, as consulting physicians.

Boston Society of Natural History.—At the annual meeting, held May 3, 1854, the following gentlemen were elected officers for the ensuing year: President, John C. Warren, M.D.; Vice Presidents, Charles T. Jackson, M.D., D. H. Storer, M.D.; Corresponding Secretary, Samuel L. Abbott, M.D.; Recording Secretary, Benjamin S. Shaw, M.D.; Treasurer, Nathaniel B. Shurtleff, M.D.; Librarian, Charles K. Dillaway; Curators, Thomas T. Bouve, of Geology; Francis Alger, Mineralogy; W. I. Burnett, M.D., Entomology; S. Kneeland, Jr., M.D., Comparative Anatomy; Jeffries Wyman, M.D., Herpetology; Thos. M. Brewer, M.D., Oology; Silas Durkee, M.D., Ichthyology; Charles J. Sprague, Botany; J. B. S. Jackson, M.D., Crustacea and Radiata; Thomas J. Whittiermore, Conchology; Henry Bryant, M.D., Ornithology; Cabinet Keeper, Charles Stodder.

Medical Miscellany.—We are pleased to learn from the May number of the Buffalo Medical Journal, that the statement in a previous number of this Journal relative to certain deaths occurring from hydrophobia in that city, was incorrect. It appears that only one or two persons died from the bites of supposed rabid dogs.—The New Orleans Medical and Surgical Journal for May contains a learned and highly-interesting notice, by its new editor, Dr. Dowler, of the late important trial in that city, in which was at issue the purity of blood of a family which ranked among the most respectable of the place.—Two cases of ossification of the placenta are given in the same number of the New Orleans Journal.—Dr. H. V. Wooten has in preparation a work on the fevers and the diseases of the digestive and respiratory systems, which prevail in the South and South-western parts of our country.

TO CORRESPONDENTS.—The following communications have been received.—Spirit-rapping and the Philosophers; Apoplexy; Remarks upon Hydrophobia; and the continuation of M. Vallez's Lectures. The biographical sketch cut from one of the religious papers and forwarded to us, cannot be used entire. Some portions of it may be selected and inserted hereafter.

MARRIED.—At New London, Ct., Wm. W. Cutler, M.D., of Boston, to Mary Williams, of New London.

DIED.—At Callao, Dr. Jackson, supposed of Boston, U. S. A.

Deaths in Boston for the week ending Saturday noon, May 13th, 73. Males, 33—females, 40. Accident, 1—apoplexy, 1—inflammation of the bowels, 2—inflammation of the brain, 2—burns and scalds, 2—consumption, 21—convulsions, 1—cholera infantum, 1—croup, 1—dysentery, 1—diarrhoea, 1—dropsy, 1—dropsy in the head, 2—debility, 1—infantile diseases, 5—puerperal, 1—fever, 1—scarlet fever, 2—hemorrhoids, 1—disease of the heart, 2—haemorrhage, 1—inflammation of the lungs, 4—marasmus, 2—old age, 3—palsy, 1— premature birth, 2—syphilis, 1—serofulua, 1—sore throat, 1—smallpox, 4—teething, 1—unknown, 2.

Under 5 years, 29—between 5 and 20 years, 6—between 20 and 40 years, 22—between 40 and 60 years, 11—above 60 years, 5. Born in the United States, 50—Ireland, 20—British Provinces, 3. The above includes 7 deaths in the City Institutions.

Artificial Breeding of Fishes.—Prof. Brainard, of Chicago, writes from Paris, to the North Western Medical and Surgical Journal, as follows:—

"At the side of Bernard, in the College of France, is Coste, whose lectures upon the development of organized bodies, are the most eloquent and instructive course I have ever listened to. The substance of his course is contained in his great work entitled "General and Special History of the Development of Organized Beings," which has reached its third number, being published by the government. He is known in America from his efforts in introducing the artificial breeding of fishes, a process now employed in all the different countries of Europe. I saw in his private room in the College of France, a number of troughs of earthen ware, containing the eggs of fishes of the choicer kinds, such as salmon, from the lakes of Switzerland, and other kinds from the different rivers of Europe. Prof. Coste informed me that the eggs are transported without difficulty, a distance of 800 miles by land, and that they could easily be sent to America without injury. These eggs are of the size of peas, of a bright red color, and to be hatched are placed upon little racks made of willow twigs, which are fixed in the troughs so as to be covered with water, and a gentle current is kept playing over them. I saw them in every different stage of development, from the simple egg to the fish just bursting from it. It is a curious sight, and seems to promise much benefit to man, by supplying fresh and wholesome food. It has, however, its difficulties. Like other orphans, a large portion of these fish brought up by hand, die before attaining maturity, and it is yet doubtful whether the plan will be successful, excepting with regard to those fishes found in the waters where the breeding is carried on; in this case there seems no reason to doubt its full success.

"An interesting fact has incidentally been noticed by those engaged in observing this process of hatching; it is that a great number of monsters occur amongst the newly-hatched fishes, a number much larger in proportion than occurs in the mammalia."

Iodine, an Antidote to the Poison of the Rattlesnake.—On the 14th day of September, 1848, I made the first application of iodine to the human subject, for the purpose of neutralizing the poison of the rattlesnake, and with entire success, on a boy about fifteen years of age, residing in this neighborhood. I saw him about six hours after he was bitten, and found the limb (leg) somewhat œdematous; made external application of tinct. iodine, with camel-hair pencil, and gave twenty drops internally once in four hours until swelling subsided. After a few doses and applications the boy recovered without any other treatment.

I have since used it soon after the wound was made, externally and alone, with the same result, and I am now perfectly satisfied that the iodine treatment, thoroughly carried out, will deprive the snake of all his terrors.

I do not deem it necessary to inject the iodine into the tissues in order to obtain its beneficial results; because the alcoholic tincture which I use will be as readily and more perfectly absorbed than the poison itself. And I know the tincture to be much better than the iodide of potassa or aqueous solution, for the reason that it is more readily absorbed by applying to the surface of the body than any other preparation of the iodine.—E. HARWOOD, M.D., in the *North-Western Medical and Surgical Journal*.

[In Vol. 1st, p. 396, of the above Journal, is an article by Dr. Whitmire, of Metamora, Ill., in which he reports a case in his practice in June, 1846, treated by the external application of tinct. iodine.]